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(54) Title: AN IMPROVED *IN VITRO* METHOD OF CULTURING MAMMALIAN CELLS FOR AUTOLOGOUS CELL IM-
PLANTATION/TRANSPLANTATION METHODS

(57) Abstract: A production method for producing cell colony forming units *in vitro* from a mammalian tissue explant, the method comprises the steps of a) growing a piece of the mammalian tissue explant in a growth medium to obtain cell colony forming units from immature cells from the piece of explant, and b) harvesting cells from one or more of the cell colony forming units for use in Autologous Cell Implantation/transplantation methods. The mammalian tissue explant is selected from the group consisting of cartilage; bone such as, e.g., bone marrow; connective tissue; muscle tissue such as, e.g., smooth muscle tissue, heart tissue, liver tissue and skeletal muscle tissue; skin tissue such as, e.g., periosteum; mucosal tissue; brain tissue, pancreas tissue and blood vessels. In particularly, the mammalian tissue explant is cartilage, such as elastic, fibro, hyalin or articular hyalin cartilage. The cells obtained are suitable for use in autologous implantation/transplantation methods. In a specific embodiment, the cell obtained are chondrocytes, especially for use in autologous chondrocyte implantation (ACI) methods.

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